VM6

**MV distribution
factory built
assemblies
at your service**

routing and connection of low voltage cables

MERLIN GERIN
mastering electrical power
GROUPE SCHNEIDER

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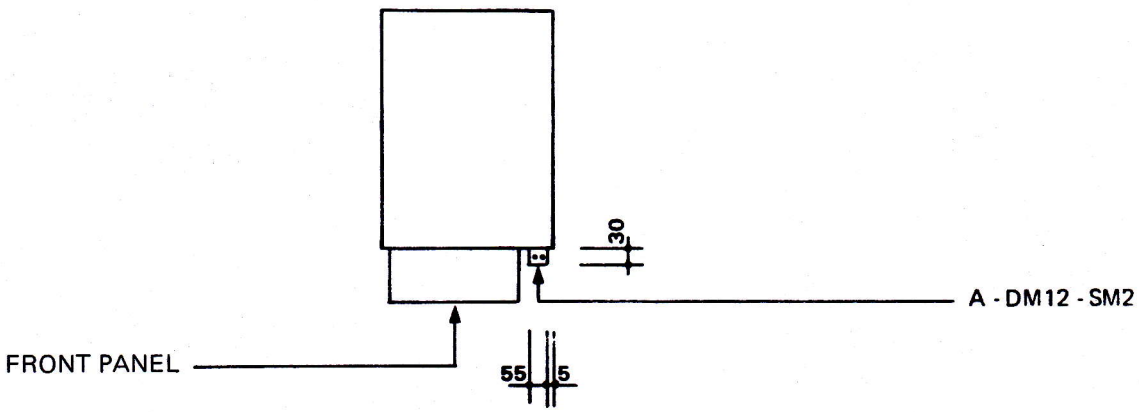
INCOMING OF LV CABLES FROM BELOW

Impact areas of incoming cables routed to the LV compartment

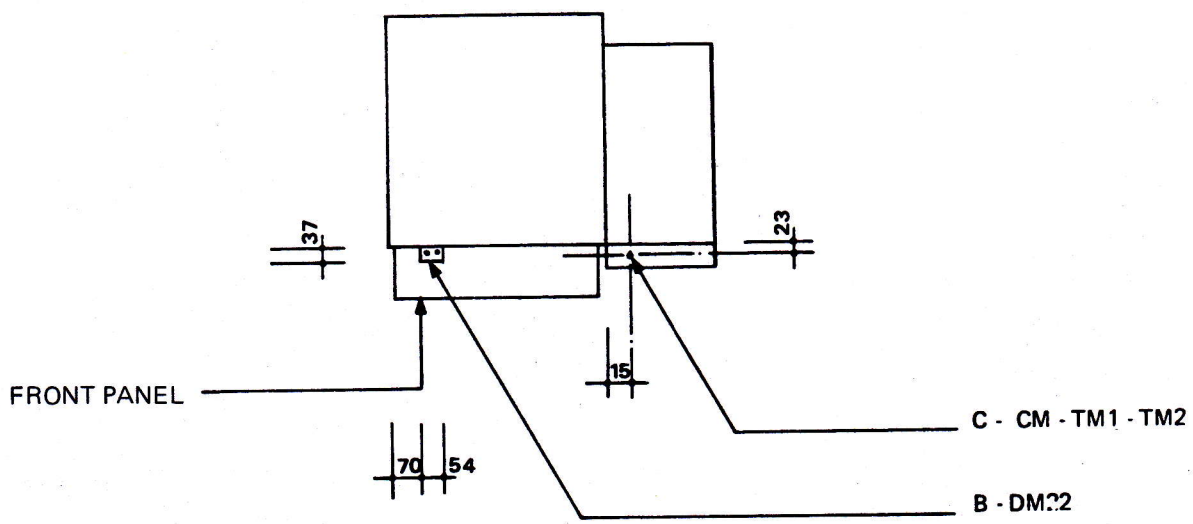
3 possible configurations :

From outside below the trough at A :

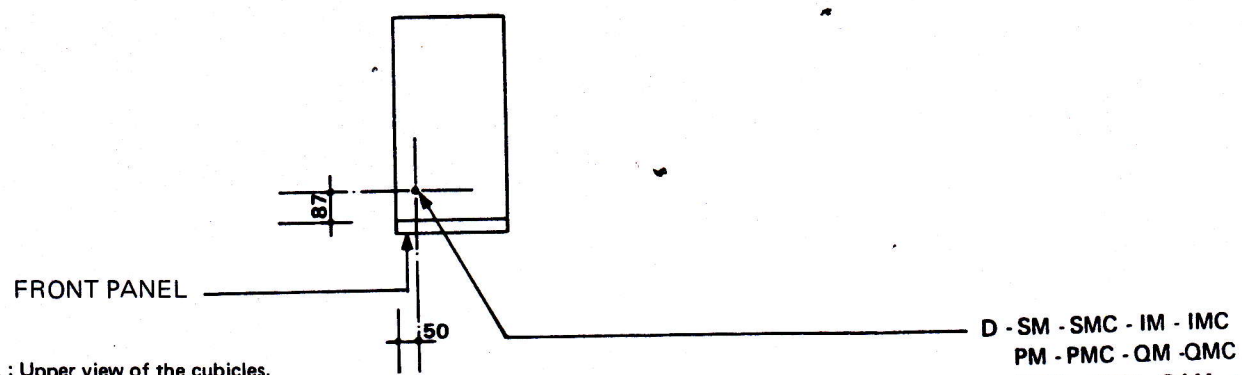


From outside below front panel at B and C :

F



From inside the unit at D :



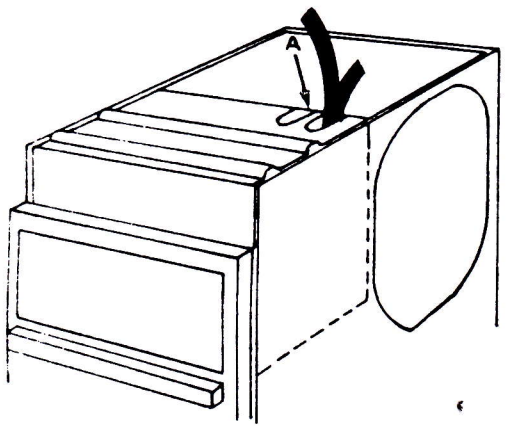
Remark : Upper view of the cubicles.

INCOMING OF LV CABLES FROM ABOVE
ROUTING OF LV CABLES ACROSS THE TOP OF THE UNITS

UNITS :SM.IM.PM.QM.CM.TM.CRM.BCM. (width 500 mm)
DDM.NSM.(2 units : width 1000 mm)

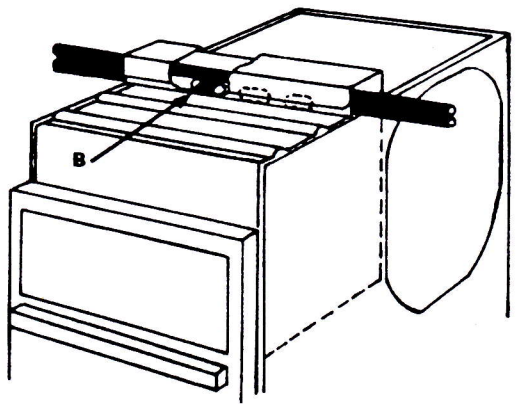
:GAM.GBM.GMC.GMT GCT.

1 : without trough



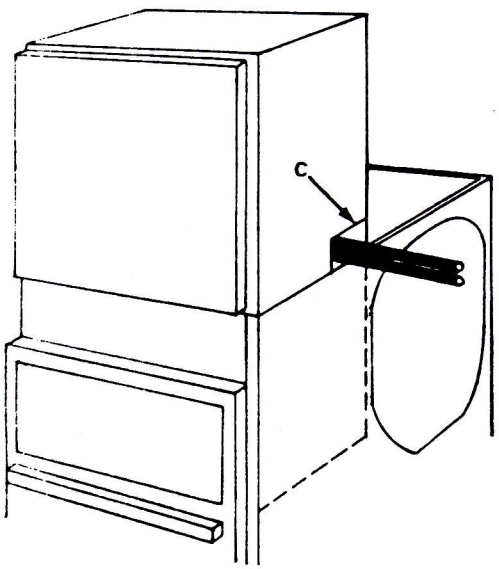
use pre-drilled holes 45 x22 (A)

2 : with alignment trough



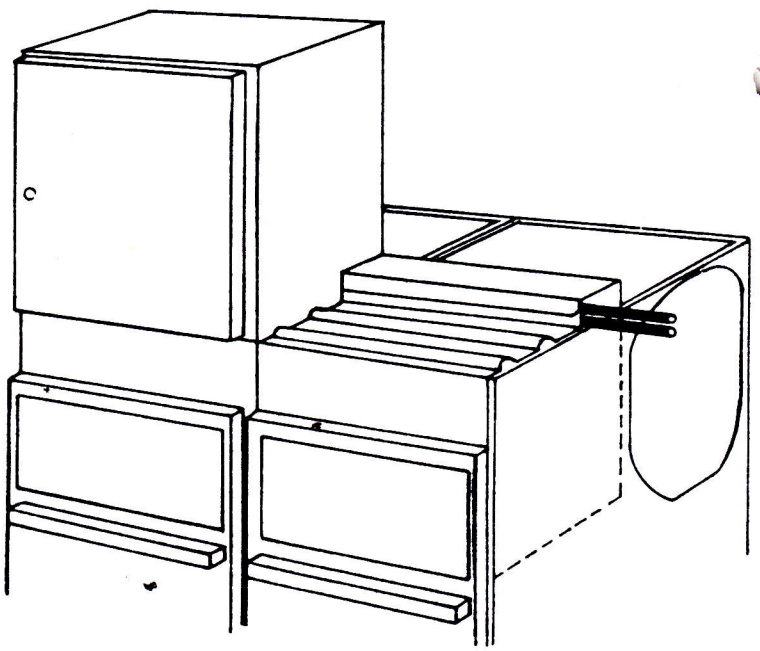
use oblong holes in LV integra ted compartment with cable outlet at end of trough.

3 : with LV box



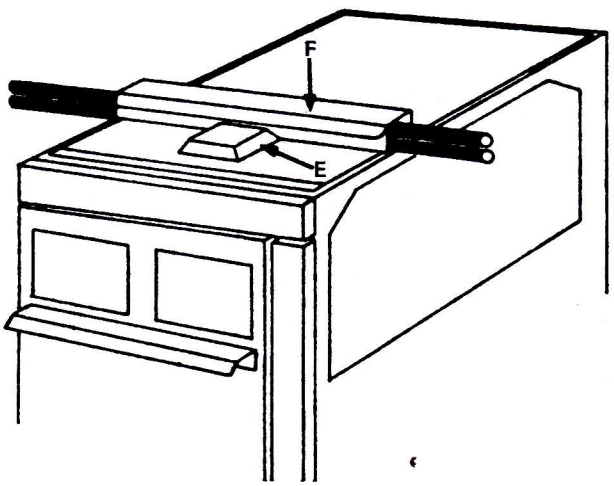
Integrated trough (C)

4 : LV box with trough



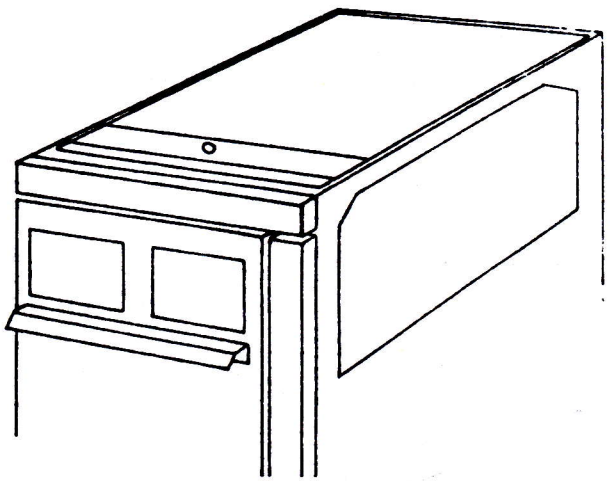
UNITS: **DM12 - SM2 (width 750 mm)**

5 : with trough



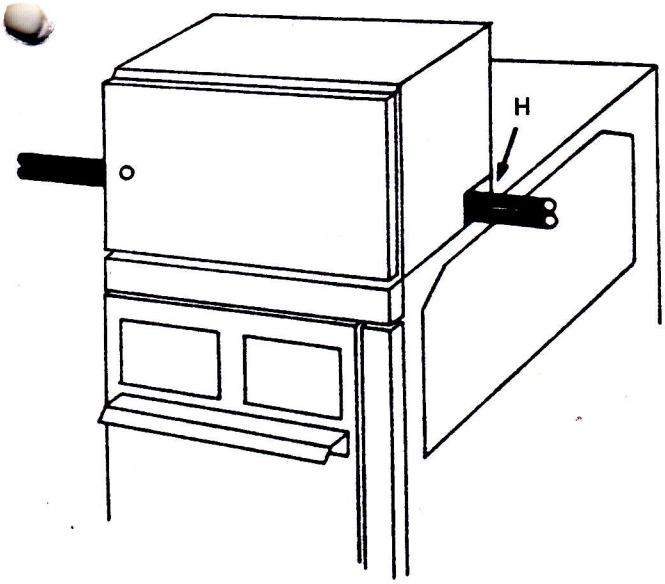
Use the hole under cover (E) and cable outgoing at the end of the trough (F)

6 : without trough



Use the pre-drilled hole

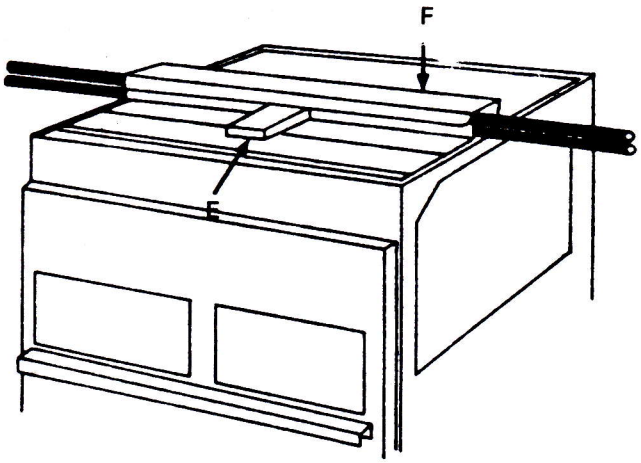
7 : with LV box



Integrated trough (H)

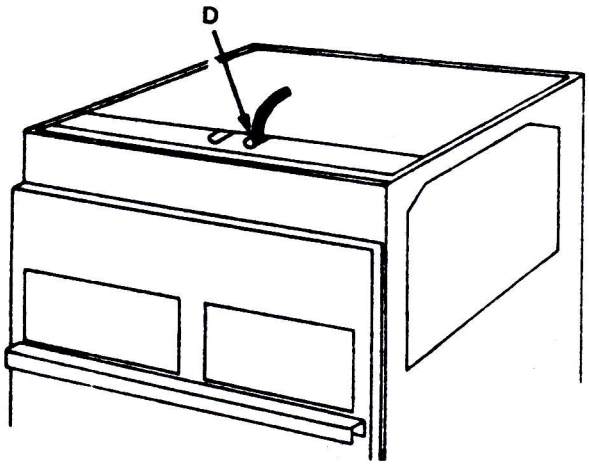
UNIT : DM 22- (width : 1000 mm)

8 : with trough



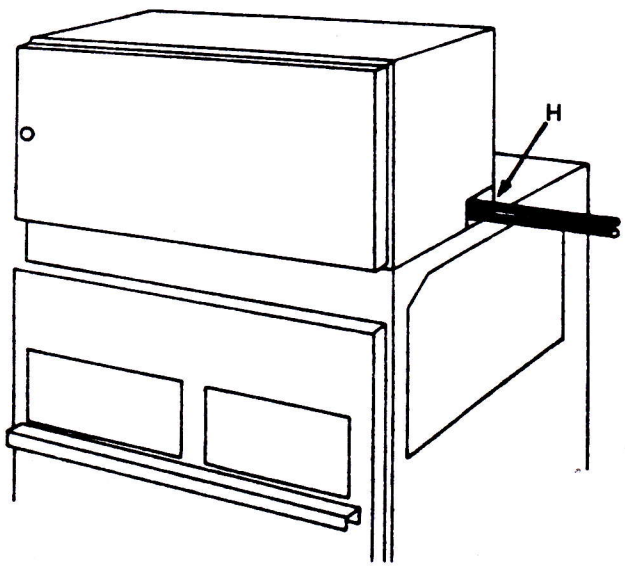
Use the holes under the cover (E) and cable outgoing at the end of the trough (F)

9 : without trough



Use the pre-drilled holes 30 x 22 (D)

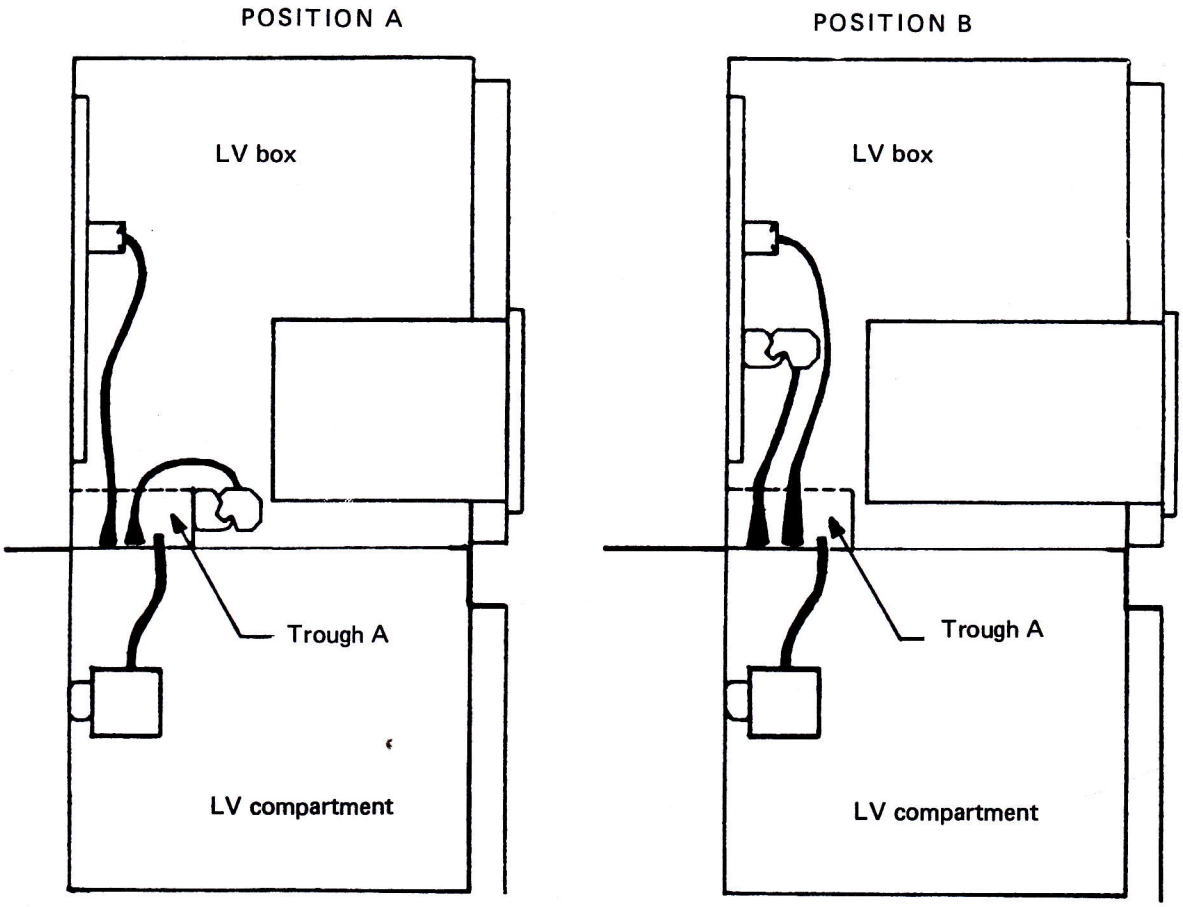
10 : with LV box



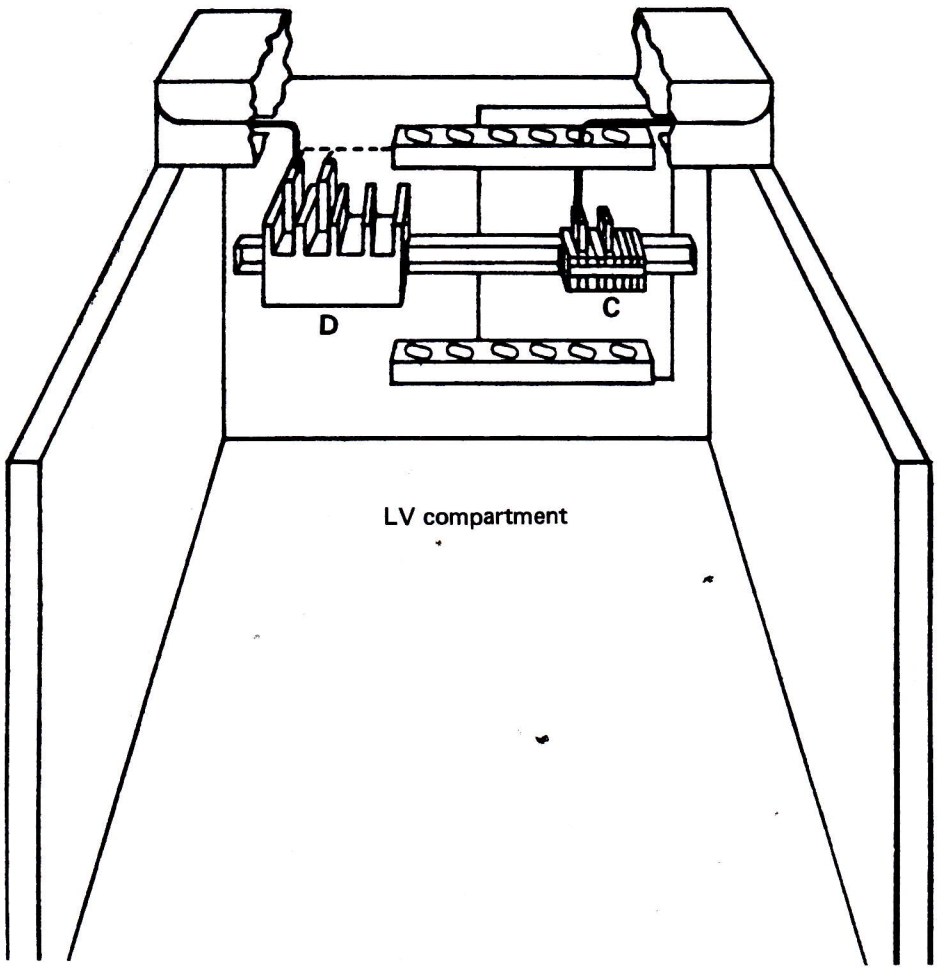
Integrated trough (H)

CONNECTION OF LV AUXILIARIES

–LV box – On the terminal board

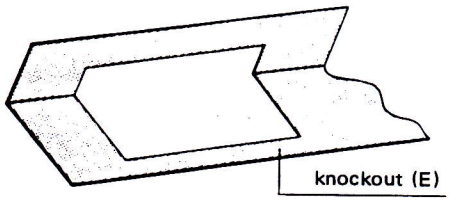


– LV compartment : On terminal board at C – On rotary indicator contact at D

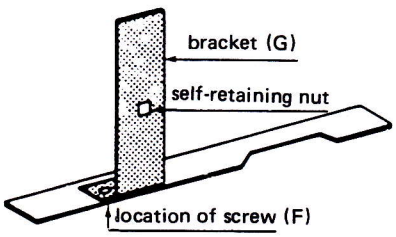


IM and SM UNITS

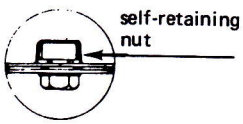
Détail 1



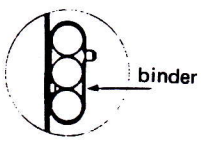
Détail 2



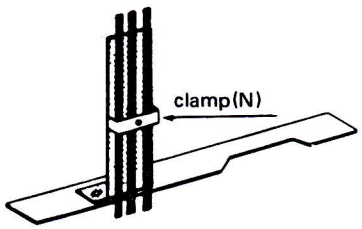
Détail 2bis



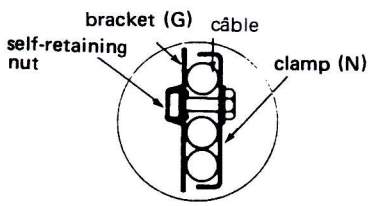
Détail 3



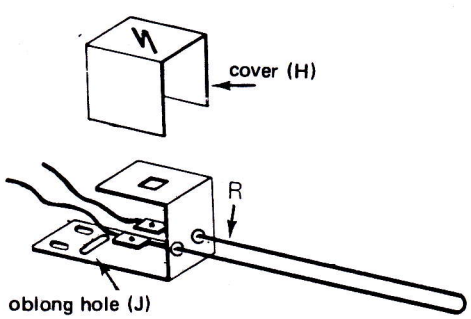
Détail 4



Détail 4bis



Détail 5



ACCESSIBILITY

For operation, see instructions No 7 895 654.

ROUTING OF CABLES

- Remove knockout (A) in the LV compartment (B).
- Place the Flexiform protection (C) over the edge of the opening.
- Remove knockout (E) in supporting angle (D) (see detail 1).
- Loosen and remove the screw (F) of the bottom tie-bar.
- Place the bracket (G) and its self-retaining nut (see details 2 and 2bis).
- Screw on screw (F) holding together the bracket and the tie-bar (P).

Heating resistor

- Loosen and remove the protective cover (H) (see detail 5)
- Connect the leads to the terminals of the resistor (check voltage at point (R).
- Refit the protective cover (H).

a. Cabling from below (direct connection by the user)

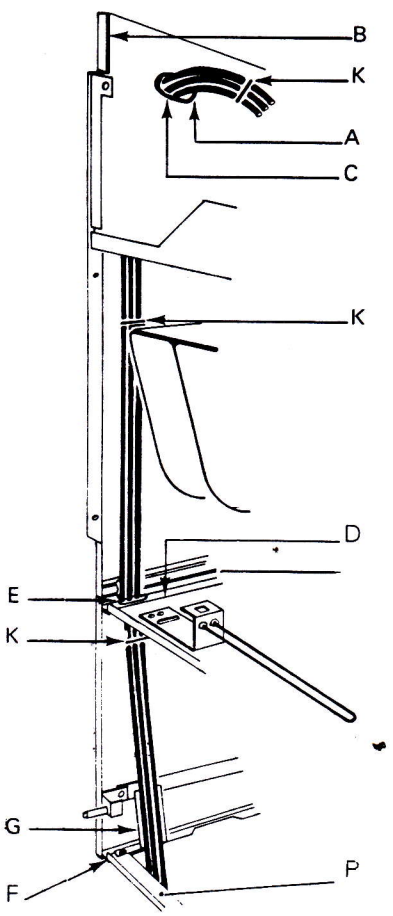
- Run the heater supply leads through the oblong hole (J) (see detail 5).

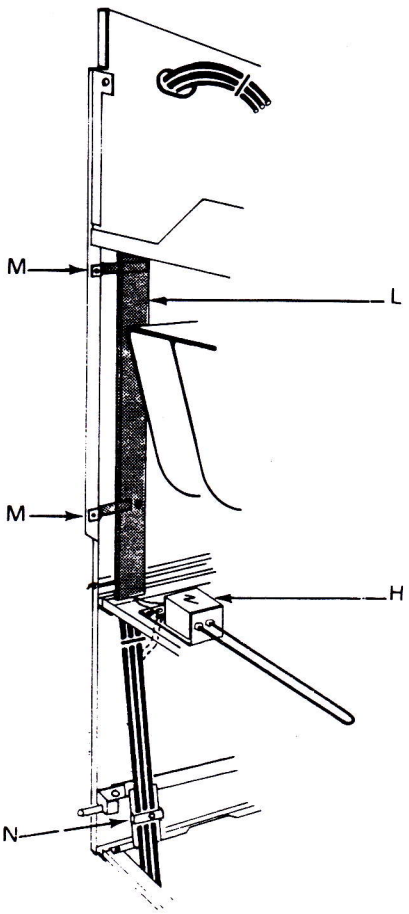
b. Cabling from above (from the terminal board)

- Do not use the oblong hole (J).

For cables other than the heating resistor cables

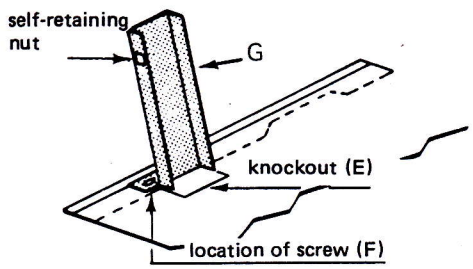
- Introduce the cables from below.
- Bind the cables as well as the heater supply leads at three different points (K) (see detail 3).
- Place the covered trough (L).
- Secure it at two points (M).
- Place the clamp (N) over the cables and secure it (see details 4 and 4bis).



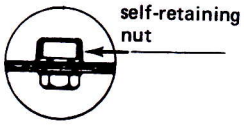


IMC and SMC UNITS

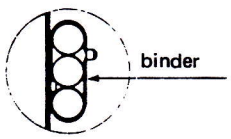
Détail 1



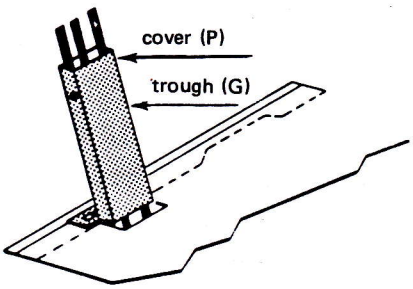
Détail 2



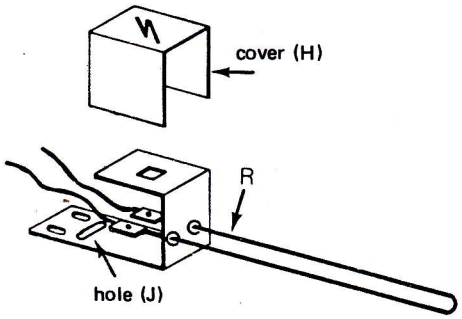
Détail 3



Détail 4



Détail 5



ACCESSIBILITY

For operation, see instructions No 7 895 654.

ROUTING OF THE CABLES

– Remove knockout (A) in the LV compartment (B).
– Place the Flexiform protection (C) over the edge of the opening.
– Remove knockout (E) in the bottom plate (D) (see detail 1).
– Loosen and remove the screw (F) of the bottom tie-bar.
– Place the trough (G) in position and its self-retaining nut (see details 1 and 2).
– Screw on screw (F) holding together the trough (G) and the bottom plate (D).

Heating resistor

– Loosen and remove the protective cover (H) (see detail 5).
– Connect the leads to the terminals of the resistor (check voltage at point R).
– Refit the protective cover (H).

a. Cabling from below (direct connection by the user)

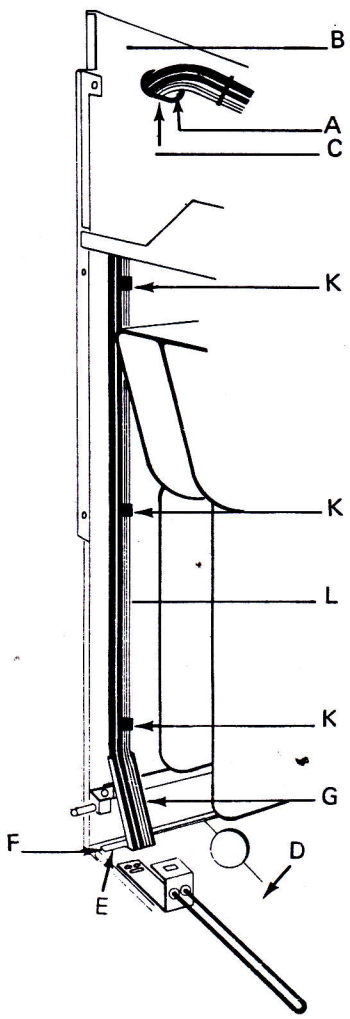
– Run the heater supply leads through the oblong hole (J)

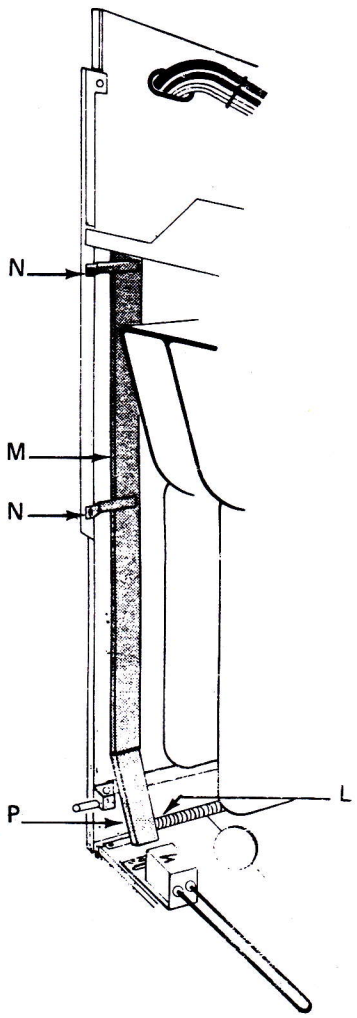
b. Cabling from above (from the terminal board)

– Do not use the oblong hole (J).

For cables other than the heating resistor cables

– Place 3 self-adhesive binding base (K) on the side wall for the CT's cabling (detail 3) from tube (L).
– Run the cabling of the CTs and of the heating resistor along trough (G) (see detail 4).
– Bind cabling (L) onto the bases (K) (see detail 3).
– Introduce the cables from below.
– Bind these cables in the LV compartment (B).
– Place the trough (M) in position.
– Secure it at the 2 points (N).
– Fit the cover (P) (see detail 4). Secure it.



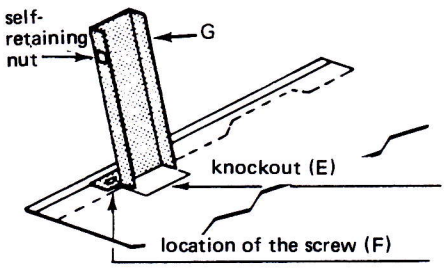


PM and QM UNITS

ACCESSIBILITY

For operation, see instructions No 7 895 655.

Détail 1



ROUTING OF THE CABLES

– Remove knockout (A) in the LV compartment (B).
– Place the Flexiform protection (C) over the edge of the opening.
– Remove knockout (E) in the bottom plate (D) (see detail 1).
– Loosen and remove the screw (F).
– Place the trough (G) in position and its self-retaining nut (see detail 1bis).
– Screw on screw (F) holding together the trough and the bottom plate (D).

Heating resistor

– Loosen and remove the protective cover (H) (see detail 4).
– Connect the leads to the terminals of the resistor (check the presence of voltage at point R).
– Refit the protective cover (H).

a. Cabling from below (direct connection by the user)

– Run the heater supply leads through the oblong hole (J) (see detail 4).

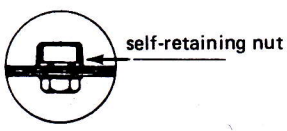
b. Cabling from above (from the terminal board)

– Do not use the oblong hole (J)

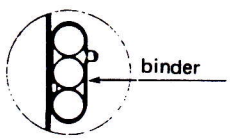
For cables other than the heating resistor cables

– Introduce the cables from below.
– Bind these cables as well as the heater supply leads at three different places (K) (see detail 2).
– Place the covered through (L).
– Secure it at 2 points (M).
– Fit the cover (N).
– Secure it according to detail 3.

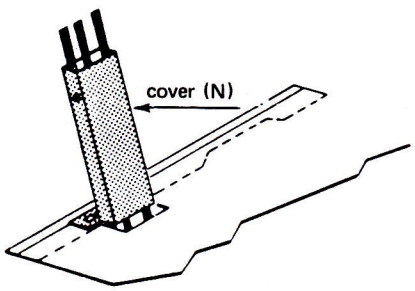
Détail 1bis



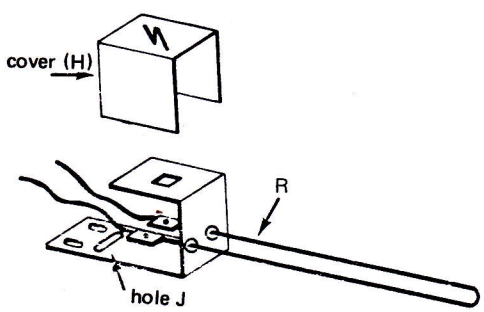
Détail 2

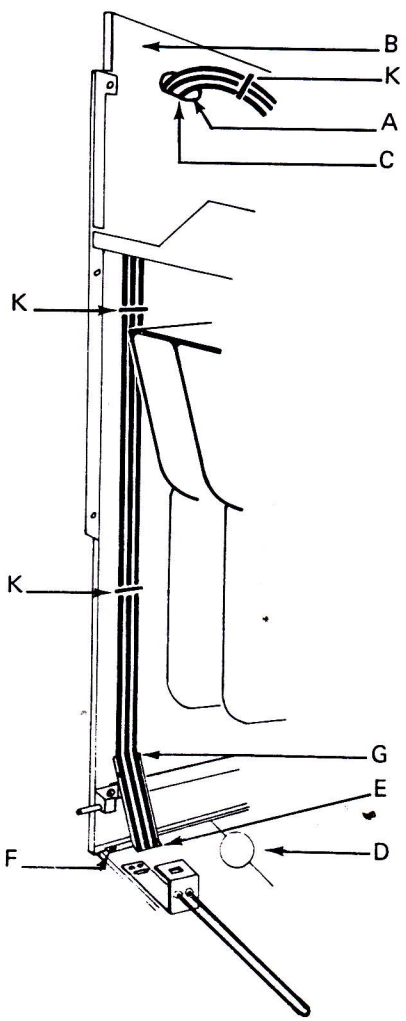


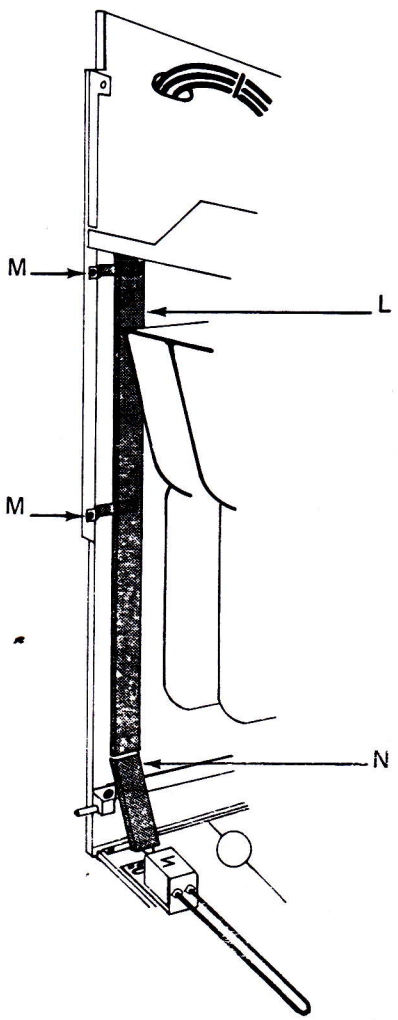
Détail 3



Détail 4

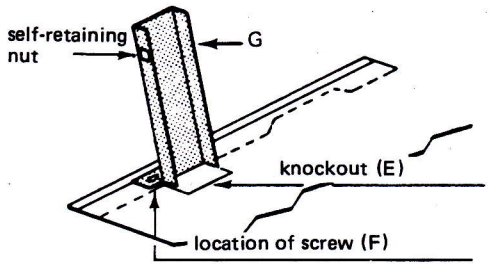




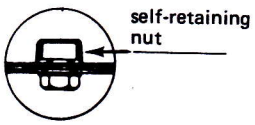


PMC and QMC UNITS

Détail 1

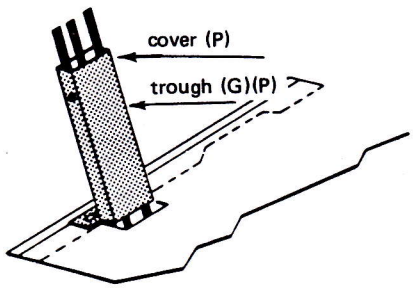


Détail 1bis

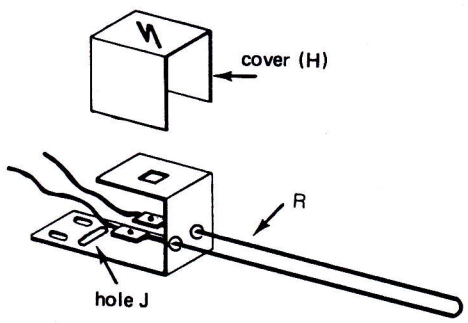


Détail 2

Détail 3



Détail 4



ACCESSIBILITY

For operation, see instructions No 7 895 657.

ROUTING OF THE CABLES

– Remove knockout (A) in the LV compartment (B).
– Place the Flexiform protection (C) over the edge of the opening.
– Remove knockout (E) in the bottom plate (D) (see detail 1).
– Loosen and remove the screw (F).
– Place the trough (G) in position and its self-retaining nut (see detail 1bis)
– Screw on screw (F) holding together the trough and the bottom plate (D).

Heating resistor

– Loosen and remove the protective cover (H) (see detail 4).
– Connect the leads to the terminals of the resistor (check voltage at point R).
– Refit the protective cover (H).

a. Cabling from below (direct connection by the user)

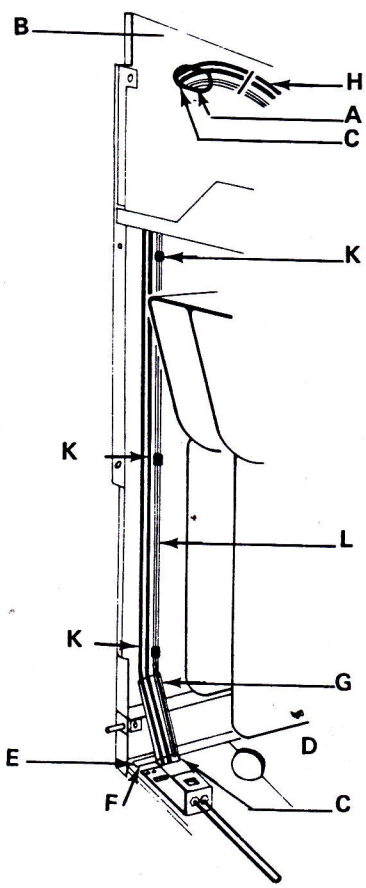
– Run the heater supply leads through the oblong hole (J) (see detail 4).

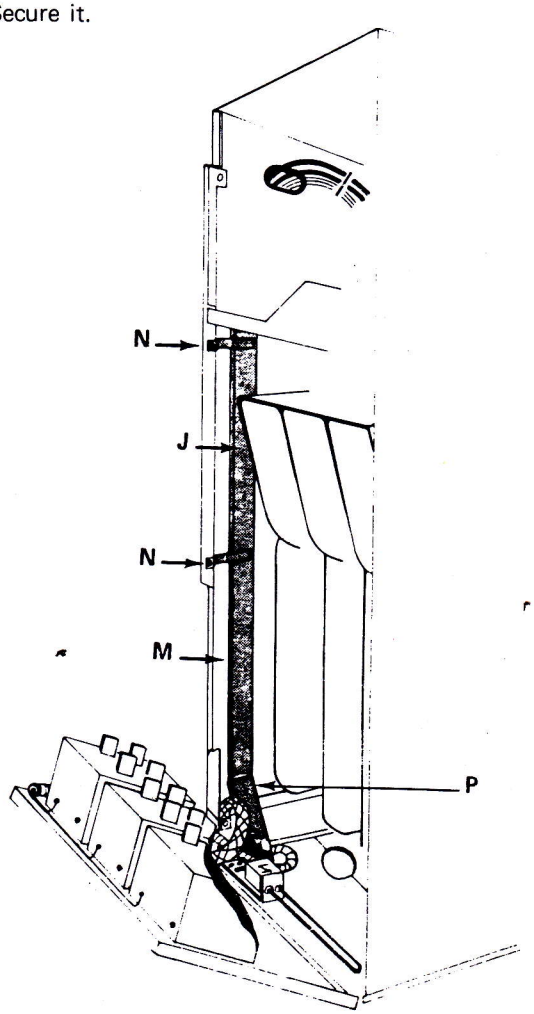
b. Cabling from above (from the terminal board)

– Do not use the oblong hole (J).

For cables other than the heating resistor cables

– Place 3 self-adhesive binding base (K) on the side wall for the CTs cabling (see detail 2).
– Run the cabling of the CTs (L) as well as the heating resistor supply leads along the trough (G) (see detail 3).
– Bind cabling (L) onto the bases (K) (see detail 2).
– Introduce the cables from below.
– Bind the cables in the LV compartment (B).
– Place the trough (M) in position.
– Secure it at 2 points (N).
– Fit the cover (P) (see detail 3). Secure it.





CM, TM1 and TM2 UNITS

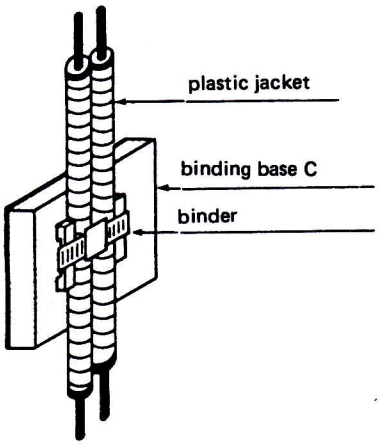
ACCESSIBILITY

For operation, see instruction No 7 895 654

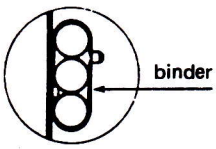
ROUTING OF THE CABLES

– Dis-assemble the trough (A) – 2 screws – (the cabling of the VT's is laid)
– Introduce the cables from below.
– Connect the supply leads to the terminals of the heating resistor (see detail 4). To check voltage, see at point R.
– Fit a flexible plastic jacket of about 300mm in length over each cable (B), including the supply leads of the heating resistor.
– Place a self-adhesive binding base (C) on the side wall (see detail 1).
– Bind these flexible jackets onto the base (C).
– Bind all these cables at (D), (E) and (F) (see detail 2).
– Run the cables out of the cubicle.
– Secure them behind the earth terminal (G) (see detail 3).
– Refit the trough (A).
– Secure it at 2 points (H).

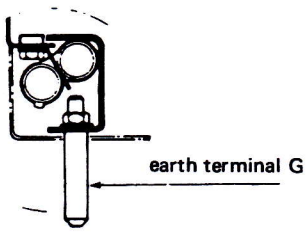
Détail 1



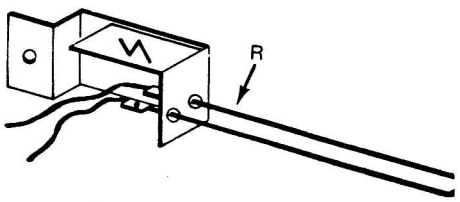
Détail 2

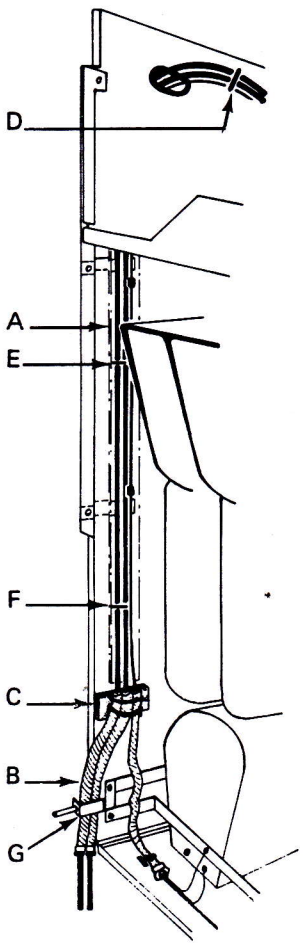


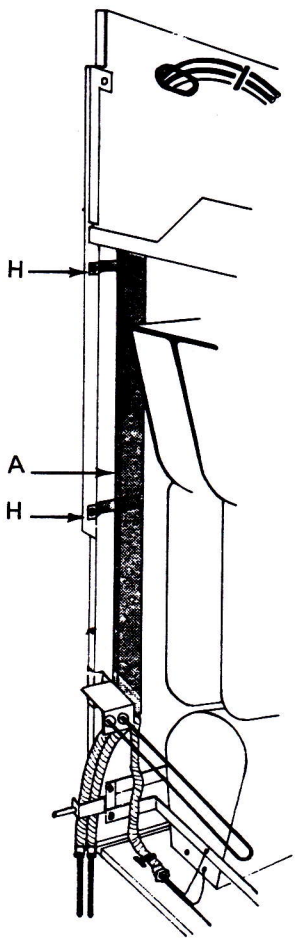
Détail 3



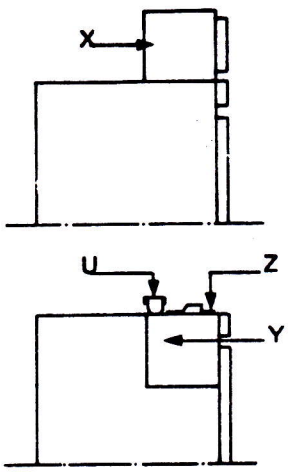
Détail 4



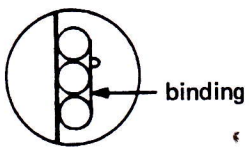




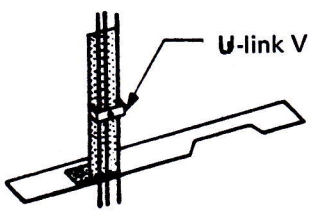
DDM UNIT



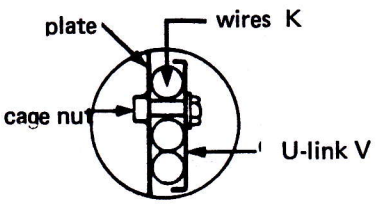
Détail 3



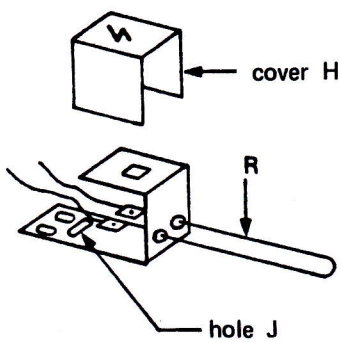
Détail 4



Détail 5



Détail 6



ACCESSIBILITY (For operation,see instructions Nº 7 895 656 or 7 896 125)

Reminder : access to different LV components
– LV box (X) open door
––LV compartment or control compartment (Y) :remove front cover (Z)

CONNECTIONS

a. From above
Troughs and top covers open

b. From below
Doors and lower panels open

1 Heating resistor power supply

a . Cable feed from above
Feed the cables into the trough (U) and make the connection to the terminal board in the LV compartment

b . Cable feed from below
Remove the U-link (V) and the heating resistor cover (H) the cables feed from below (d on page 3)are passed through the hole (J) and the connection is made to the heating resistor studs
Bind the wires up (P) and replace the U-link (V) to clamp them replace the heating resistor cover (H).

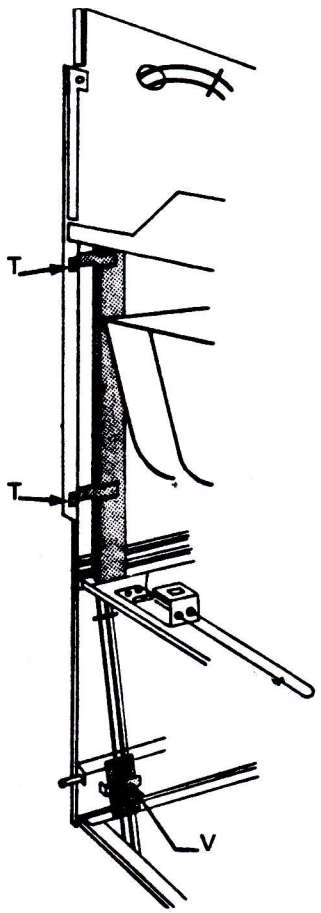
2 Connection other than to heating resistor

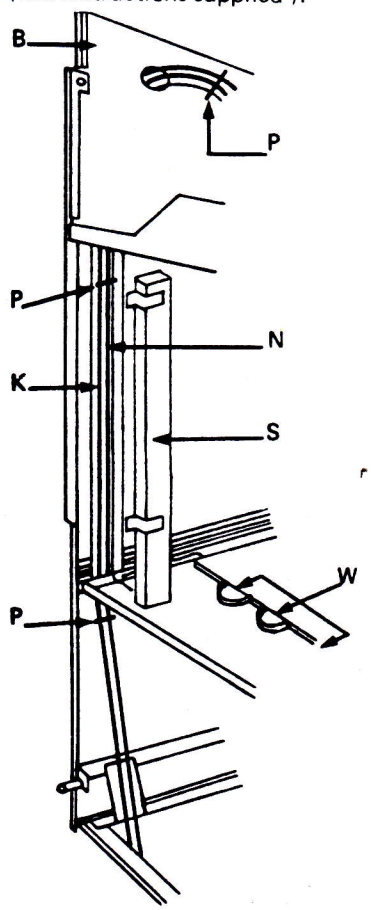
(left – hand unit only) battery power supply,indicators, etc ....

a . From above
Route the cables into the trough (U) and make the connection to the terminal board in the LV compartment.

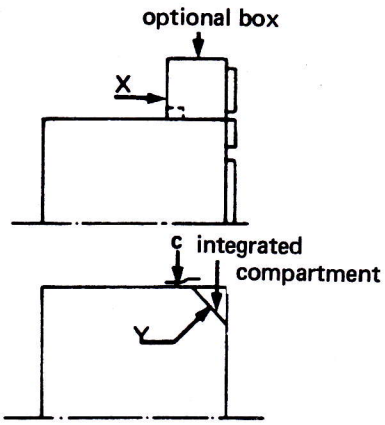
b . From below
Introduce the cables (K) from below
Run these cables up to the control compartment (B)
Bind these wirings together (N) ,as well as the power supply cables from the heating resistor where applicable and cables (K) at 3 different places(P)
(see detail 3)
Install the U-link (V) on the cables and secure it (see details 4 and 5)
Install the trough (S) secured at 2 points (T)

c . Installation and connection of W Tore transformers (see instructions supplied).





DM12 UNIT A and B
SM2 UNIT A only



ACCESSIBILITY (For operation, see instructions N° : 7 896 024)

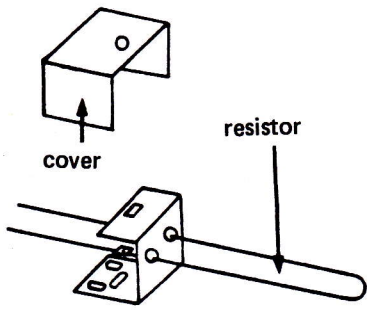
Reminder : access to different LV components
– LV box (X) open door
– LV compartment (Y) remove front top panel (C)
– Routing : remove the cover from the trough (g) 2 screws
– Resistor : remove the unit from panel

CONNECTIONS

1 Resistor power supply

a . Cable feed from below
Direct connections to resistor studs

b . Cable feed from above
Connection to terminals in LV compartment :X and / or Y

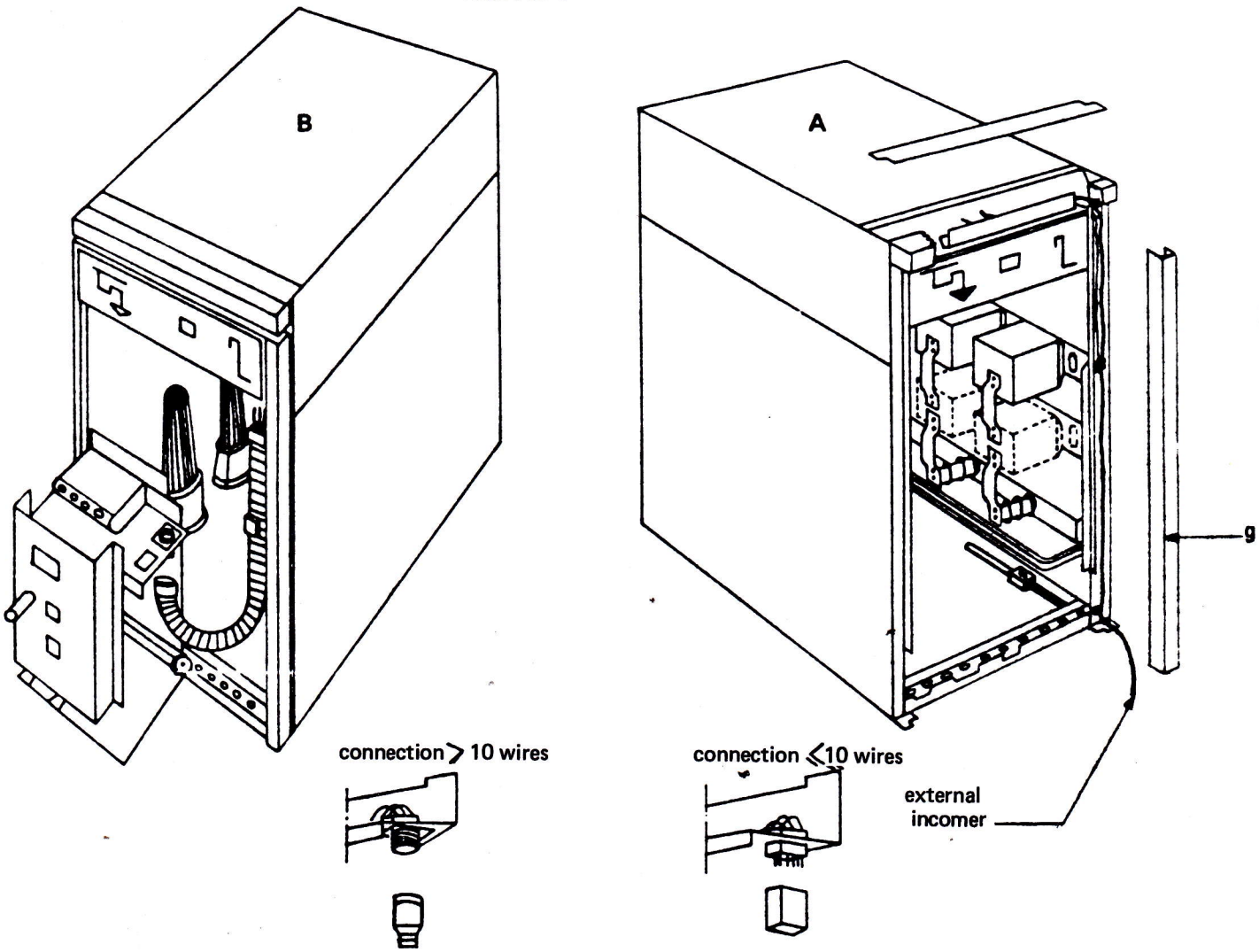


2 LV power supply other than resistor

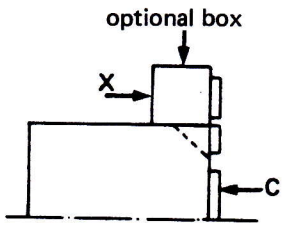
(CT to the right , relay , indicator contacts , circuit breaker ,power supply , etc ....)

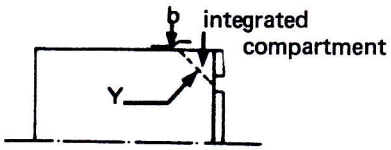
a . Cable feed from below
Replace the cables in the trough and connect to terminals in LV compartment : X and / or Y

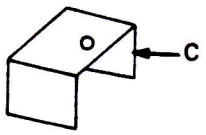
b . Cable feed from above
Make the connection directly to the terminals in the LV compartment : X and / or Y

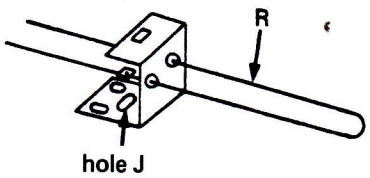


DM 22 UNIT









ACCESSIBILITY (For operation , see instructions N° : 7 895 883)

Reminder : access to different LV components
- LV box (X) open door
- LV compartment (Y) remove front top panel (B)
- Resistor :remove circuit breaker cover

CONNECTIONS

1 Resistor power supply

a . Cable feed from below
Connect directly to resistor studs (use hold J)

b . Cable feed from above
Connect to terminals in LV compartment : X and / or Y

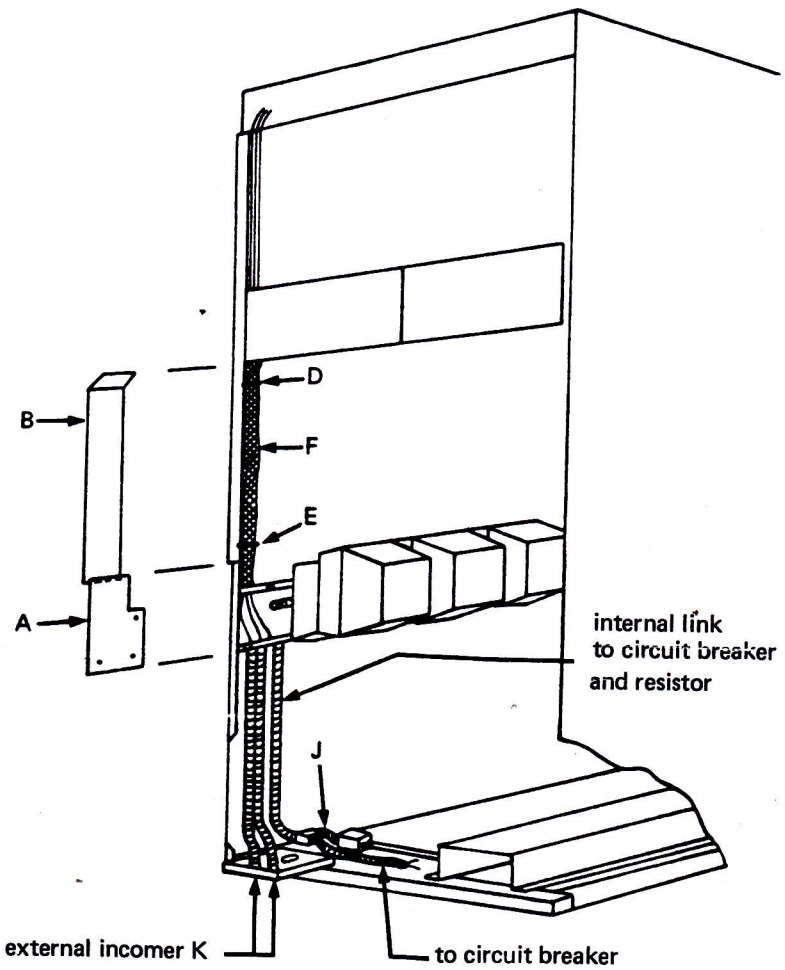
2 LV power supply other than resistor

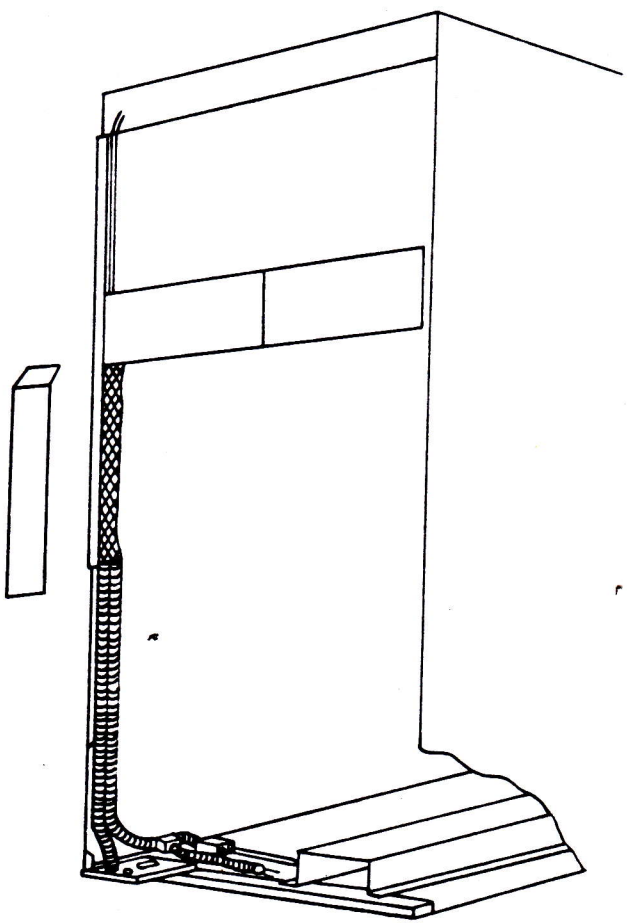
(Left or right CTs , relays , indicator contacts , circuit breaker power supply , etc ....)

a . Cable feed from below
Unscrew and remove the stop plate (A)
Unscrew and remove the trough (B)
Cut the bindings (D) and (E) holding the braided plastic sheath (F)
Route the cables through the sheaths (K) and then into sheath (F) up to terminal board
Bind this sheath again (F)
Replace the trough (B) and the stop plate (A)

b . Cable feed from above
Connect to the terminals in the LV compartment : X and / or Y

Example with 3 CT (right)
- without trough (B) and stop plate (A)
Use only flexible tube (F) for protection of the cables





GCT and GMT UNITS
GMC UNIT

ACCESSIBILITY

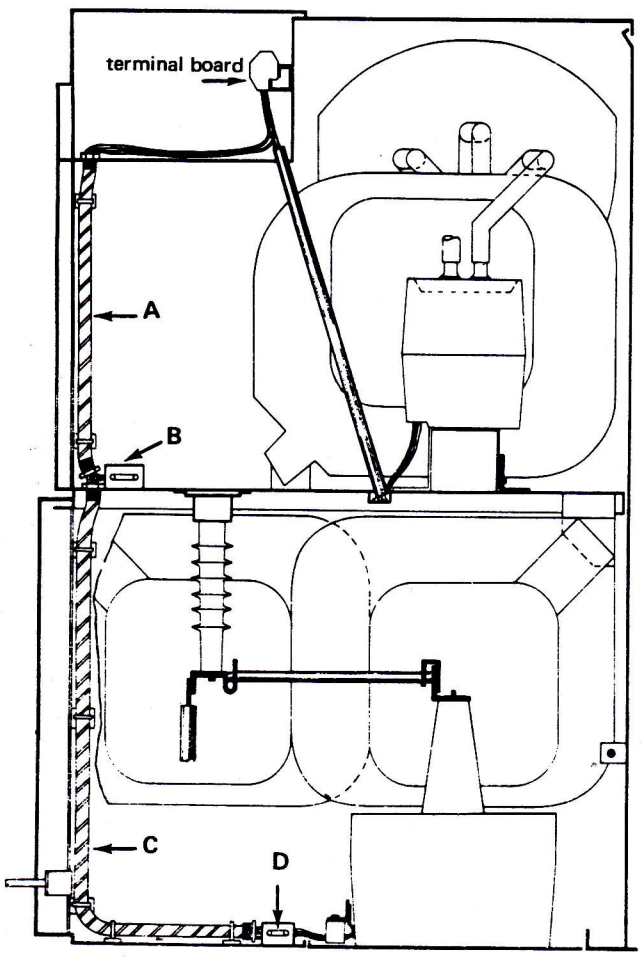
ROUTING OF THE CABLES

Cabling from above (recommended from the terminal board) (detail 1).
– Introduce the cables through the flexible tube (4).
– Remove the protective cover (B) of the heating resistor.
– Connect the leads to the terminals of the heating resistor.
– Refit the cover (B).
– Introduce the cables in the flexible tube (C) down to the heating resistor (D).

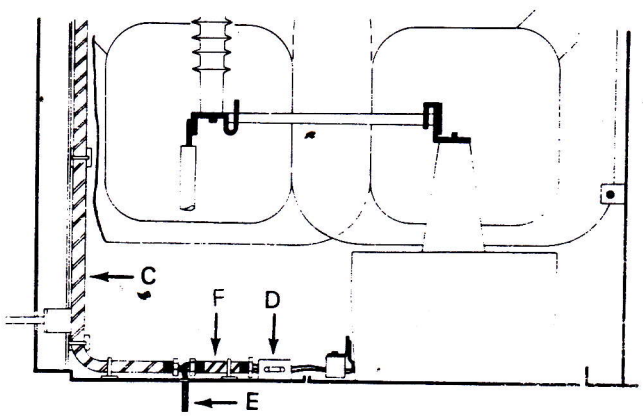
Cabling from below (direct connection by the user) (detail 2).
– Use opening (E) in the bottom plate.
– Run the cables through the flexible tube (C) up to the heating resistor (B) (detail 1) and through the flexible tube (F) up to the resistor (D) (detail 2).

NOTE – In the case of cables other than multi-conductor cables, it is possible to loosen and remove the ferrule and mouth-piece on the end of each tube and to cut the binders in order to run the cables more easily through these tubes.

Détail 1



Détail 2



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as standards specifications and desings develop from time to time, always ask for confirmation of the information given in this publication

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